

**AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all prior versions, and listings, of claims in this application.

Claim 1 (currently amended): A process for the preparation of racemic citalopram diol ("racemic-diol") free base or acid addition salt thereof, and/or the corresponding R- or S-diol free base or acid addition salt thereof from an initial non-racemic mixture of R- and S-diol free base or acid addition salt thereof, comprising the steps of:

- i) precipitating a mixture of R- and S-citalopram diol ("RS-diol") in the form of a free base or acid addition salt thereof from a solution of the initial non-racemic mixture, leaving a final solution phase comprising R- or S-diol free base or acid addition salt thereof, wherein the precipitated RS-diol comprises a ratio of R-diol:S-diol that is equal to 1:1 or closer to 1:1 than the initial non-racemic mixture; or mixing a solution of the initial non-racemic mixture with a solvent to preferentially dissolve R- or S-diol free base or acid addition salt thereof into a final solution phase, leaving a residue comprising RS-diol free base or acid addition salt thereof;
- ii) separating the residue/precipitate from the final solution phase;
- iii.a) if the residue/precipitate is crystalline, optionally recrystallizing the residue/precipitate one or more times to form racemic diol; or
- iii.b) if the residue/precipitate is not crystalline, optionally repeating steps i) and ii) until a crystalline residue/precipitate is obtained and optionally recrystallizing the crystalline residue/precipitate one or more times to form racemic diol;
- iv) optionally subjecting the final solution phase to further purification;
- v) isolating S-diol or R-diol free base or acid addition salt thereof from the final solution phase; and

- vi.a) optionally converting the S-diol or R-diol free base to an acid addition salt thereof;
- vi.b) optionally converting the acid addition salt of the S-diol or R-diol free base to another acid addition salt; or
- vi.c) optionally converting the acid addition salt of the S-diol or R-diol free base to the corresponding free base.

Claim 2 (currently amended): A process for the preparation of S-citalopram diol or R-citalopram diol free base or acid addition salt thereof from an initial non-racemic mixture of R- and S- diol free base or acid addition salt thereof, comprising the steps of:

- i) precipitating a mixture of R- and S-citalopram diol ("RS-diol") in the form of a free base or acid addition salt thereof from a solution of the initial non-racemic mixture, leaving a final solution phase, wherein the precipitated RS-diol comprises a ratio of R-diol:S-diol that is equal to 1:1 or closer to 1:1 than the initial non-racemic mixture; or mixing a solution of the initial non-racemic mixture with a solvent to preferentially dissolve R- or S-diol free base or acid addition salt thereof into a final solution phase, leaving a residue comprising RS-diol free base or acid addition salt thereof;
- ii) separating the residue/precipitate from the final solution phase;
- iii) optionally subjecting the final solution phase to further purification; and
- iv) isolating S-diol or R-diol free base or acid addition salt thereof from the final solution phase.

Claim 3 (previously presented): The process of claim 2, wherein the diol prepared is the S-diol free base or acid addition salt thereof.

Claim 4 (previously presented): The process of claim 2, wherein the diol prepared is the R-diol free base or acid addition salt thereof.

Claim 5 (currently amended): A process for the preparation of racemic citalopram diol ("racemic diol") free base or acid addition salt thereof, comprising the steps of:

- i) precipitating a mixture of R- and S-citalopram diol ("RS-diol") in the form of a free base or acid addition salt thereof from a solution of the initial non-racemic mixture, leaving a final solution phase, wherein the precipitated RS-diol comprises a ratio of R-diol:S-diol that is equal to 1:1 or closer to 1:1 than the initial non-racemic mixture; or mixing a solution of the initial non-racemic mixture with a solvent to preferentially dissolve R- or S-diol free base or acid addition salt thereof into a final solution phase, leaving a residue comprising RS-diol free base or acid addition salt thereof;
- ii) separating the residue/precipitate from the final solution phase;
- iiia) if the residue/precipitate is crystalline, optionally recrystallizing the residue/precipitate one or more times to form racemic diol; or
- iiib) if the residue/precipitate is not crystalline, optionally repeating steps i) and ii) until a crystalline residue/precipitate is obtained and optionally recrystallizing the crystalline residue/precipitate one or more times to form racemic diol.

Claim 6 (previously presented): The process of claim 1, wherein the initial non-racemic mixture contains more than 50% of S-diol.

Claim 7 (previously presented): The process of claim 1, wherein the initial non-racemic mixture contains more than 50% of R-diol.

Claim 8 (previously presented): The process of claim 1, wherein the ratio of R-diol:S-diol in the RS-diol of the residue/precipitate is in the range of 0.5:1.5 to 1:1.

Claim 9 (previously presented): The process of claim 1, wherein the RS-diol of the residue/precipitate and the R- or S-diol of the final solution phase are each independently in the form of a free base or an acid addition salt thereof.

Claim 10 (previously presented): The process of claim 1, wherein RS-diol free base or acid addition salt thereof is precipitated from a solution of the initial non-racemic mixture.

Claim 11 (previously presented): The process of claim 1, wherein the RS-diol is precipitated using an acid.

Claim 12 (previously presented): The process of claim 11 wherein the initial non-racemic mixture is obtained or dissolved in a suitable solvent and the acid is:

added after the initial non-racemic mixture is obtained or dissolved in a suitable solvent;  
present in the solvent during and/or prior to dissolution of the initial non-racemic mixture;  
and/or  
present in the initial non-racemic mixture during and/or prior to dissolution in the solvent.

Claim 13 (previously presented): The process of claim 1, wherein a solution of the initial non-racemic mixture is mixed with a solvent to preferentially dissolve R- or S-diol free base or acid addition salt thereof into a final solution phase, leaving a residue comprising RS-diol free base or acid addition salt thereof.

Claim 14 (previously presented): The process of claim 1, wherein RS-diol acid addition salt is formed as a residue having an acidic part that comprises an acid.

Claim 15 (previously presented): The process of claim 13 wherein the acid is:  
present in the solvent before the initial non-racemic mixture is mixed with the solvent;  
mixed with the solvent together with the initial non-racemic mixture;  
mixed with the solvent after the initial non-racemic mixture is mixed with the solvent; and/or  
present in the initial non-racemic mixture during and/or prior to the mixing with the solvent.

Claim 16 (previously presented): The process of claim 14, wherein the initial non-racemic mixture is mixed with a solvent selected from toluene, ethylacetate, diethylether, THF, water, alcohols, acetonitrile, ketones, and mixtures thereof.

Claim 17 (previously presented): The process of claim 1, wherein the residue/precipitate is formed using an acid selected from HCl, HBr, H<sub>2</sub>SO<sub>4</sub>, p-toluenesulfonic acid, methanesulfonic acid, acetic acid, and oxalic acid.

Claim 18 (previously presented): The process of claim 17, wherein the acid is selected from HCl, HBr, and oxalic acid.

Claim 19 (previously presented): The process of claim 1, wherein the residue/precipitate is formed using 0.2-10 mol of acid for each mol of S- and R-diol comprised in the initial non-racemic mixture.

Claim 20 (previously presented): The process of claim 1, wherein the residue/precipitate is formed using 0.3-4.0 mol of acid for each mol of RS-diol comprised in the residue/precipitate.

Claim 21 (previously presented): The process of claim 1, wherein the residue/precipitate is RS-diol free base in crystalline form.

Claim 22 (previously presented): The process of claim 1, wherein the residue/precipitate is RS-diol free base and the initial non-racemic mixture is in a solvent selected from alkanes, aromatic hydrocarbons, polar solvents, alcohols, ketones, and mixtures thereof.

Claim 23 (previously presented): The process of claim 1, wherein the final solution phase is subjected to one or more further purifications according to steps i) and ii) before isolation of the S-diol or R-diol free base or acid addition salt thereof from the final solution phase.

Claim 24 (previously presented): The process of claim 1, wherein the S-diol or R-diol free base or acid addition salt thereof is isolated from the final solution phase by evaporation of the solvent.

Claim 25 (previously presented): The process of claim 1, wherein the final solution phase is acidic and the S-diol or R-diol free base or acid addition salt thereof is isolated from the final solution phase by basification of the final solution phase, followed by phase separation or extraction with a solvent, followed by evaporation of the solvent.

Claim 26 (previously presented): The process of claim 1, wherein the S-diol or R-diol free base or acid addition salt thereof is isolated from the final solution phase by precipitation of the R- or S-diol free base or acid addition salt thereof.

Claim 27 (previously presented): The process of claim 1, wherein the S-diol or R-diol free base or acid addition salt thereof obtained contains a minor amount of the opposite enantiomer.

Claim 28 (canceled)

Claim 29 (previously presented): A method for the preparation of citalopram free base or an acid addition salt thereof, and/or S-citalopram free base or an acid addition salt thereof or R-citalopram free base or an acid addition salt thereof, comprising the process of claim 1 followed by ring closure.

Claim 30 (previously presented): The process of claim 6, wherein the initial non-racemic mixture contains more than 70% of S-diol.

Claim 31 (previously presented): The process of claim 30, wherein the initial non-racemic mixture contains more than 90% of S-diol.

Claim 32 (previously presented): The process of claim 7, wherein the initial non-racemic mixture contains more than 70% of R-diol.

Claim 33 (previously presented): The process of claim 32, wherein the initial non-racemic mixture contains more than 90% of R-diol.

Claim 34 (previously presented): The process of claim 8, wherein the ratio of R-diol:S-diol in the RS-diol of the residue/precipitate is 0.5:1.5, 0.9:1.1, 0.95:1.05, 0.99:1.01, 0.98:1.02, or 1:1.

Claim 35 (previously presented): The process of claim 16, wherein the solvent is selected from iso-propylalcohol, acetone, methyl isobutyl ketone, and mixtures thereof.

Claim 36 (previously presented): The process of claim 18, wherein a crystalline hydrobromide salt, hydrochloride salt or oxalate salt of the RS-diol is formed.

Claim 37 (previously presented): The process of claim 19, wherein the residue/precipitate is formed using an amount of acid selected from 0.2-0.4 mol, 0.4-0.6 mol, 0.9-1.1 mol, and 1.8-2.2 mol, for each mol of S- and R-diol comprised in the initial non-racemic mixture.



Claim 38 (previously presented): The process of claim 20, wherein the residue/precipitate is formed using an amount of acid selected from 0.4-0.6 mol, 0.9-1.1 mol, and 1.8-2.2 mol for each mol of RS-diol comprised in the residue/precipitate.

Claim 39 (previously presented): The process of claim 22, wherein the solvent is selected from heptane, hexane, toluene, benzene, xylene, acetonitrile, methanol, iso-propylalcohol, methyl isobutyl ketone, and mixtures thereof.

Claim 40 (previously presented): The process of claim 26, wherein an S-diol or R-diol acid addition salt is precipitated in the form of a phosphate salt or an oxalate salt.

Claim 41 (previously presented): The process of claim 27, wherein the S-diol or R-diol free base or acid addition salt thereof obtained contains less than 3% of the opposite enantiomer.

Claim 42 (previously presented): The process of claim 41, wherein the S-diol or R-diol free base or acid addition salt thereof obtained contains less than 2% of the opposite enantiomer.

Claim 43 (previously presented): The process of claim 42, wherein the S-diol or R-diol free base or acid addition salt thereof obtained contains less than 1% of the opposite enantiomer.